

Cheng Zhang

Curriculum vitae

Education

- 2018 — Now **Doctor of Philosophy, Computer Science**, Boston University, Boston, MA
Research Interests: Kleene Algebra, Program Semantics, Program Logic, Category theory
- 2014 — 2018 **Bachelor of Art, Mathematics**, with *department honor, magna cum laude*, Wheaton College, Norton, MA
Minor in Computer Science and Economics. Major GPA: 3.87, Overall GPA: 3.83
Honor Thesis: King in Generalized Tournaments.
Honors and Fellowships: Dean's Lists, 2014 — 2018; Wheaton Fellows, 2016; Faculty-Student Research Awards, 2017
- 2016 — 2017 **Study Aboard, Economics**, London School Of Economics, London, United Kingdom

Publications

- 2018 **Cheng Zhang**, *King in Generalized Tournaments*, Wheaton College Honor Thesis
- 2018 **Cheng Zhang, Weiqi Feng, Emma Steffens, Alvaro de Landaluce, Scott Kleinman, Mark D. LeBlanc**, *Lexos 2017: Building Reliable Software in Python*, Conference for Computing in Small Colleges, UNH-Manchester

Talks

- 2020 **Mark Lemay, Cheng Zhang, William Blair**, *Developing a Dependently Typed Language with Runtime Proof Search (Extended Abstract)*, The workshop on Type-Driven Development
- 2018 **Cheng Zhang, Mark D. LeBlanc**, *Lexos 2017: Building Reliable Software in Python*, Conference for Computing in Small Colleges, UNH-Manchester

2018 **Cheng Zhang**, *Kings in Quasi-transitive Oriented Graph*, Wheaton Summit For Woman In STEM

Research Projects

- 2020 — Now **Kleene Algebra and Incorrectness Logic**
Studying algebraic formulation of Incorrectness Logic using extensions of Kleene Algebra.
- 2017 — 2018 **Mathematics Honor Thesis**, *Wheaton College Mathematics Department*, Norton, MA
Studies kings in generalization of tournament, with a special focus on quasi-transitive oriented graph. I have shown that all the quasi-transitive oriented graph can be condensed into a tournament via tie component condensation, and tie component condensation of quasi-transitive oriented graph is the most efficient condensation to tournament.
- 2015 — 2018 **Software Leader**, *Lexomics Research Group*, *Wheaton College*, Norton, MA
Lead a major factorization of the text analysis software Lexos. In the process, the team adopted modern development workflow and transitioned the code base to a functional-first paradigm for ease of maintenance. I have also proposed a new architecture for side-effect management in Python.

Employment

- 2019 — Now **Research Assistant**, *Boston University*, Boston, MA
- 2019 — 2021 **Teaching Fellow**, *Boston University*, Boston, MA
- 2020 Fall, CS 230: Principle of Programming Language, with Professor Marco Gaboardi and Lecture Abbas Attarwala
 - 2020 Summer, CS 111: Introduction to Computer Science 1, with Lecture John Magee
 - 2020 Summer, CS 112: Introduction to Computer Science 2, with Lecturer Christine Papadakis-Kanaris
 - 2020 Spring, CS 235: Algebraic Algorithm, with Professor Leonid Levin
 - 2019 Fall, CS 132: Geometric Algorithm, with Lecture Abbas Attarwala
 - 2019 Spring, CS 230: Principle of Programming Language, with Professor Wayne Snyder
- 2019 **Grader**, *Boston University CS 511 Formal Method*, Boston, MA
- 2015 — 2018 **Student Technician**, *Wheaton College Technology Support*, Norton, MA
- 2017 — 2018 **Grader**, *Wheaton College MATH 241 Theory of Probability*, Norton, MA

Honors

2018 — Now A member of Phi Beta Kappa.

2018 Madeleine F. Clark Wallace Mathematics Prize.

Fred Kollett Prize in Mathematics & Computer Science.

Phi Beta Kappa Graduate Scholarship.